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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,866	09/08/2000	Dirk P. Gunther	7099-1267	2936

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WASHINGTON, DC 20005

EXAMINER
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PORTER, RACHEL L

ART UNIT	PAPER NUMBER
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3626

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/658,866

Applicant(s)

GUNTHER ET AL.

Examiner

Rachel L. Porter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Notice to Applicant***

1. This communication is in response to the application filed 9/8/00. Claims 1-17 are pending. The IDS's filed 12/7/00, 2/23/01, and 2/26/02 have been entered and considered.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 and 11-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter.

For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case claim 1 only recites an abstract idea. The recited steps of merely determining a set of itineraries does not

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apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to maximize profitability for a (travel) service provider.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation in the preamble that the method is "computer implemented". Looking at the claim as a whole, nothing the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use.

The deficiencies in the present claim may be overcome by simply expressly stating in the body of the claims the use of technology, such as a *computer* processor and/or a *computer* database.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the invention of claims 1-7 produces a set of itineraries (i.e., repeatable) used in determining/selecting the best set of market plans to optimize profitability. (i.e., useful and tangible).

Although the recited process of claims 1-7 produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological

arts as explained above, claim 1 is deemed to be directed to non-statutory subject matter.

Claims 2-7 inherit the deficiencies of claim 1 through dependency, and are also rejected.

As per claim 11, the present claim recites “ a computer program product having instructions for. . .” in the preamble. Data structures not embodied on a computer readable media are considered descriptive material. They are therefore considered non-statutory because they are not capable of causing a functional change in a computer. As drafted, the claim fails to define any structural and functional interrelationships between the code and other elements of a computer that permit the computer program’s function to be realized. (See MPEP § 2106)

For a claimed invention to be statutory, the claimed invention must also produce a useful, concrete, and tangible result. Under this analysis, the present language of exemplary claim 11 merely recites non-functional descriptive material, as no recitation of executable code being embodied on any medium or data structure is provided. Simply stated, the “computer program product” as recited in claim 11 (as an apparent “article of manufacture”) fails to have a tangible result. As such, claim 11 fails to recite the practical application of an abstract idea to satisfy the requirements of 35 U.S.C. 101.

Claims 12-17 inherit the deficiencies of claim 11 through dependency and are also rejected.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Barlow et al (USPN 5,652,867).

As per the limitations of claims 1-7, Barlow teaches a method for optimizing a schedule of legs employed in transporting objects between geographic markets, comprising the steps of:

- identifying a set of itineraries for serving each market in a set of markets, each itinerary comprising one or more legs; (Figure 1; col. 3, lines 45-65)
- generating a set of market plans for each market, each market plan comprising a modified set of the itineraries for the market, (Figure 4; col. 4, lines 15-45,)
- determining the profitability of each market plan, (Figs 4-5; col. 5, lines 66-col. 6, line 4)
- selecting from the set of market plans a subset optimizing the profit of the schedule (Figure 2; col. 2, lines 39-47; col. 6, lines 36-46, 56-67)

Barlow further teaches a method that uses a “profitability model” (i.e. a model that assists in determining the profitability of various itineraries) and wherein various

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parameters may be considered and/or manipulated in determining flight schedules (col. 5, lines 29-46).

System claims 8-10 repeat the subject matter of claims 1-3 as a set of components capable of performing the functions recited claims 1-3. As the underlying process has been shown to be fully disclosed by the teachings of Barlow et al in the above rejection of claims 1-3, it is readily apparent that the Barlow reference includes a system to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 1-3 and incorporated herein.

Claims 11-17 repeat the subject matter of claims 1-7 as a set of computer readable instructions (for causing a computer) to perform the steps recited in claims 1-7. As the underlying process has been shown to be fully disclosed and computer implemented by the teachings of Barlow et al in the above rejection of claims 1-7, it is readily apparent that the Barlow reference includes computer instructions cause a compute to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 1-7 and incorporated herein.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yu et al (USPN 6,314,361) discloses a system and method for optimizing flight schedules when flight operations have been disrupted.

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- Talluri (USPN 6,263,315) teaches a system and method for revenue management to determine the profitability of flight legs.
- Hornick (WO 9212492 A2) teaches an inventory control system for determining expected marginal seat revenue using a leg-based optimization method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel L. Porter whose telephone number is 703-305-0108. The examiner can normally be reached on M-F, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (703)305-9588. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.

RP  
RP

*Alexander L. Anderson*  
ALEXANDER L. ANDERSON  
PATENT EXAMINER  
Art 3626